Quality of Parent-Child Book-Reading as a Predictor of Children's Socio-Emotional Competencies

A Senior Thesis

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By

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Abstract

Research has found that the quality of parents' mental state talk (e.g., emotions, desires) during shared book reading is related to children's emotion understanding (e.g., Doan, 2010; Garner, 1997). However, research connecting parents' mental state talk to children's social-emotional competence (e.g., helping others) is lacking. We aimed to examine parents' mental state talk with children during book reading as a predictor of children's social-emotional skills one year later. We hypothesized that parents who engaged their preschoolers in more mental state talk (emotion, cognition, and desire) and better quality of comments (e.g., explanations vs. unelaborated comments) will have children with lower problem behaviors and higher prosocial behavior scores one year later. Fifty parents completed an online study in which they were sent one of two storybooks to read to their 4- or 5-year-olds. Parents read the book to their child for the first time then uploaded a recording of the reading. One year later, parents reported their children's problem behaviors and prosocial skills in an online survey. We found that the more parents engaged in emotion talk with their child during shared reading, the lower their problem behavior scores. These skills are especially relevant because parent-child book reading could be a protective factor for children experiencing emotional difficulties caused by some unprecedented event, such as a global pandemic.

Parents are one of the most important socializers of preschool-aged children. From a social-constructionist perspective (Hughes et al., 2015), as children begin to engage in conversation with parents around this age, they internalize the content of this talk. Particularly, the ways in which parents discuss mental states (e.g., thoughts, emotions, desires) shapes the way the children understand their social world. For example, parents who engage in more mental state talk, particularly talk about cognition, often have children with better theory of mind (i.e., the ability to understand false beliefs; see Tompkins et al., 2018). Additionally, parental talk about emotions is also related to children's emotion understanding, e.g., children's ability to identify basic emotions (Garner et al., 1997). However, there is less known about how parents' early socialization of mental states relates to children's everyday socio-emotional functioning (e.g., internalizing/externalizing behaviors).

The quantity and quality of parent-child book readings is a predictor of children's social-cognitive skills, such as theory of mind (Adrian et al., 2005). Specifically, the use of mental state talk during shared book reading has been linked to children's theory of mind understanding (Slaughter et al., 2007). A mother who uses mental states more is more likely to have a child with a better developed understanding of false beliefs in others, which is a quality of theory of mind understanding (Ruffman et al., 2002). One way that parents can integrate this talk into their child's lives is when they are reading together. Ruffman et al. (2006), found that mothers who engaged their child with more mental state talk while completing a task had children that were more cooperative and worked with a peer with less conflict. The study's findings suggest that the children's higher levels of cooperation and lower levels of conflict were related to the amount of emotion talk the mother used.

Beyond aiding in theory of mind development, research also suggests that the frequency of book reading is a predictor of assessments of social-emotional skills (Rose et al., 2018). Prior research connects the quality of parent-child book reading with some aspects of children's social-emotional skills. One skill that has been connected is emotion comprehension (Schapira & Aram, 2020), which is related to theory of mind (Tompkins et al., 2018). However, the research linking the quality of parent-child book readings with social-emotional skills in real-world contexts (not experimental assessments) is lacking. Such skills would include emotional symptoms (e.g., many fears) and prosocial skills (e.g., sharing, being helpful with peers). In order to have positive relationships with their peers, children need to possess some level of these skills.

Wirth et al. (2020) analyzed parent-child reading frequency and children's Strengths and Difficulties Questionnaire (SDQ) scores, a measure of children's problem behaviors and prosocial skills. The quality and frequency of book reading were analyzed, and then compared with a child's SDQ scores as rated by the children's teacher. Wirth et al. (2020) found that reading to a child before they were one year old was associated with less problematic behavior and better scores on the negative behavior scales on the SDQ at ages two to four years old. This study's measures of the quality of talk during book readings did not focus on mental state talk, but rather it focused on the use of gestures, narration beyond the text, and asking questions. However, Carr et al., (2018) found that mental state talk during the preschool years could be a protective factor against problem behaviors that are measured by the SDQ, as children grows older. The parents who used more mental state talk when their child was three to four years old had children with fewer reported problem behaviors at age ten. In summary, research suggests a link between parents' discussion of mental states with children, particularly during shared

reading, and children's theory of mind development (Tompkins et al., 2018). However, research connecting mental state talk during shared book readings and young children's socio-emotional skills, measured with the SDQ in the current study, is lacking.

In addition to mental states, parents also socialize children to engage in shared reading through the function of those utterances (e.g., questions vs. comments). There are a few ways that parents can engage their child to participate in extratextual talk by asking questions. The two most often used ways of doing so are by asking yes/no and wh- questions (what, where, how, etc.). Wh- questions are often favored because they allow the child more of an opportunity to reply with their own words, which helps to build knowledge (Laible & Song, 2006). Yes/no questions are less favorable because the child has little to no chance to formulate their own opinions (Lee et al., 2012). Schapira and Aram (2019) found that children who engage more in discussions while reading (i.e., are asked questions that elicit more thoughtful responses) have a better socioemotional understanding. These findings suggest that wh-questions engage the child more and may promote better understanding, and possibly higher levels emotional comprehension. Additionally, Garner et al. (1997) found that explanations were more beneficial than unelaborated comments in children's emotional abilities.

While information on how a pandemic impacts children's social development is limited, many theorize that children will face many negative consequences, potentially lasting into their adult lives. A study conducted in 2006, which analyzed census data from 1960 and 1980, noted that children whose mothers were impacted by the Spanish flu during the 1918 epidemic fared worse in their educational, physical, and socioeconomic statuses (Almond, 2006). Sheridan et al. (2003) argues that childhood interactions occur within context. Context refers to both the setting and skills needed by the child to form social relationships. Children who are unable to be in an

environment with their peers, and therefore not learning the skills needed to socialize within peer groups, may struggle to adapt post-pandemic. Brownell et al. (2003) points out that children navigate many peer groups within schools (i.e., within the classroom, at recess) and outside of it (i.e., relatives, church, sports groups) which helps children acquire social competence in their relationships. Children are, in non-pandemic times, interacting with their peers in these contexts, which therefore allows them to develop their social skills. Because children who are in lockdown are not receiving the same stimulating interactions, it is possible that these children will fall behind in their socialization. Parents who read to their children with more elaborative mental state talk may be benefitting their child by compensating for the aspects of peer relation learning that children will have lost during the pandemic.

Research Questions & Hypotheses

The aim of this study is to examine parents' early socialization, through the quality of their shared reading practices, and its relation to children's socio-emotional functioning. The first research question is: Does parents' mental state input during shared reading relate to children's scores on the SDQ, which includes reports of children's problem behaviors and prosocial skills? My hypothesis is that parents' use of mental state talk (i.e., cognition, emotion, desires) will be related to their child's scores on the problem behavior and prosocial behavior scales of the SDQ. More specifically, I predict that children whose parents use more mental state talk will have lower problem behavior scores and higher prosocial scores. Although emotion talk is often linked to children's socio-emotional skills (Slaughter et al., 2007), there is some research suggesting that other mental states relate to children's socio-emotional skills as well (LaBounty et al., 2008) and thus the three most commonly categories of mental states will be examined. The second research question is: Does the function of parents' mental state input during shared

reading relate to children's scores on the SDQ? Parents' utterances containing mental states were further examined for utterance function (i.e., wh-questions, yes/no questions, explanations, and unelaborated comments. My hypothesis is that parents' use of more elaborative mental state talk (i.e., wh- questions, elaborative comments) will be related to their child's scores on the problem behavior and prosocial behavior scales of the SDQ. More specifically, I predict that children whose parents use more wh-questions and elaborative comments will have lower problem behavior scores and higher prosocial scores. Furthermore, as an explanatory question, we will be comparing two story books for any differences in relations between parents' mental state talk and child outcomes. This question is exploratory as researchers typically utilize the same book for all dyads; yet the strength of associations between parents' mental state talk and children's social understanding varies (Tompkins, 2018). It is possible that the stimuli selected for a study play a role in whether parents' input relates to children's social understanding.

Method

Participants

A total of 50 parent-child dyads participated in the current study. Participants were part of a larger study of parent-child reading interactions over time (three readings one week apart), approved by the Institutional Review Board at the Ohio State University. Although 117 consented to participate, the current analysis focuses on parents who 1) submitted the first reading, 2) submitted the first reading in March 2020 or earlier (when the COVID-19 pandemic began), and 3) participated in a one-year follow-up survey to complete the SDQ. Children in this subsample were four to five years of age (M = 4.91, SD = 0.49) at the time of the first reading and had no developmental disabilities as reported by parents on an initial survey.

The parents in this study were mostly mothers (n = 46), with only four of those parents being fathers. There were more female than male children (n = 29 female; n = 21 male). Of the 50 participants, 82% identified as European Americans. Furthermore, 8% of the participants identified as Spanish, Hispanic, or Latino in ethnicity. Most of the parents in the study (n = 47) were married at the time of the book reading. The parents also ranged in education levels, with 52% having some college to a bachelor's degree, and 48% of the parents had an advanced degree (Master's and beyond). The parents were an average of 37.3 years old (*SD* = 6.87) and ranged in age from 23 to 55 years old. Family income was determined using an income-to-needs ratio, which compares family income and how many people share that income to the poverty threshold in the United States. For example, if a family's score is 1 for this ratio it means that their income meets that of the poverty threshold. The average ratio for these families was 4.47 (*SD* = 2.04), but it ranged from .83 (i.e., below the poverty threshold) to 9.48 (i.e., nine times above the threshold). Additionally, the majority of the children were in kindergarten (n=33) at the time of completing the one-year follow-up survey. The participants ranged in location and were from a total of 23 different states within the Unites States.

Measures

Parent-child Book Reading

Parents were asked to record their book-reading interaction with their child and upload it into a survey. This book reading was both the parent and the child's first time reading the book they were given. The dyads read one of two books, either *Houndsley and Catina and the Birthday Surprise* (Howe, 2013; n = 24) or *Miss Fox's Class Gets It Wrong* (Spinelli, 2012; n = 26). These books were selected for the larger study because they are rich in theory of mind content and conflicting perspectives. Briefly, *Houndsley and Catina* is about a cat and dog who

plan a surprise birthday party for one another whereas *Miss Fox's Class Gets it Wrong* is about a fox teacher whose students believe she is in trouble with the law when she is actually dating a fox police officer.

Transcribing. All reading interactions were transcribed verbatim into C-units in CHAT (MacWhinney, 2000). All communication between the parent and child was included in the transcription, including talk before or after the book contents. Attention was given to the function of utterances (e.g., question marks), accounting for the context with which things were said, to aid in accurate coding.

Coding. The files were coded using a scheme adapted from LaBounty et al. (2008). Only the parent's extratextual talk was included in the coding. The extratextual talk in the transcribed book readings were coded in two different levels, for utterance content and function (see Table 1). Utterance content refers to mental state talk, i.e., emotion, cognition, or desire. If there was no mental state talk it was coded by default as none. The mental states that we coded for could refer only to the child, parent, or book characters, not inanimate objects, or locations. The content of conversations before book reading and any irrelevant talk after the book and relevant discussions ceased was not coded (e.g., "Mommy can I have a glass of water?").

We further coded mental state talk in terms of utterance function to include the types of questions parents asked their children and comments made on mental states. Open ended wh-questions were coded and included who, what, where, when, why, how, which, and whose. Yes or no questions were coded only if they were meant to elicit a response from the child (e.g., " and then he thought, hm, I wonder if it goes here?" would not elicit a response). Responses that were not meant to elicit a response but contained mental states would be coded for as a comment.

Comments were coded either as explaining a mental state or referring to a mental state without elaboration. For examples of all coded utterances please refer to Table 1.

Reliability was calculated between two independent coders. Both researchers coded the same 10 transcriptions, which was 20% of the total sample. The percentage agreement for mental state content was 94.8% ($\kappa = .89$) and the percentage agreement for function was 81% ($\kappa = .73$).

Children's Socio-Emotional Skills

The Strengths and Difficulties Questionnaire (Goodman, 1997) is a behavioral test, in which parents assess their children, in order to gauge their positive and negative attributes. The questionnaire consists of 25 questions, made up of 5 different scales. The scales are hyperactivity-inattention, conduct problems, emotional symptoms, peer problems, and pro-social behavior. The first four scales make up the problem behavior scales. The emotional symptoms scale analyzes aspects of the child's outward presentation (e.g., child has many worries, often seems worried). The conduct problems scale reflects a child's cooperation and difficulties (e.g., often lies or cheats). The peer problems scale seeks to see how the child interacts with their peers (e.g., picked on or bullied by other children). The hyperactivity-inattention scale gauges the child's activity level (e.g., constantly fidgeting or squirming) The prosocial scale reflects consideration the child has for others (e.g., child is kind to younger children). The five scales all have a possible total score range from 0-10. To score the SDQ the problem behavior scales are combined, for a possible max score of 40.

Procedure

Initial recruitment for the larger study happened through an online volunteer registry, Research Match. Parents of children between the ages of three and six years old were recruited to

answer questions about their home literacy environment and familiarity with various children's books in an online survey. Demographic information was also collected, including child's age, parent's age, family income, race and ethnicity, and parental education. From these participants, those with children four to five years of age who reported no developmental disabilities were recruited for the follow-up repeated reading study. As mentioned above, 117 consented and 50 parent-child dyads were selected for the current analysis. Parents were mailed one of two books and directions on how to participate; parents were simultaneously e-mailed survey links to upload the audio recordings of the books (one for each of the three readings). Parents were instructed to read this book for the first time during their recorded reading, so both parent and child were unfamiliar with the book. The book readings in this study were completed from September 2019 to March of 2020. When the one-year mark passed for the first book reading, parents were sent a follow-up survey. The survey had a response rate of about 80%, which made up the 50 dyads included in this study. The follow-up survey included the SDQ and asked parents to rate their child's behavior accordingly.

Results

All parent mental state talk and SDQ score variables were first examined for normality. Variables exceeding ± 2 for skewness or kurtosis were transformed by taking the square root of the value of that variable, which applied to the following variables: parents' wh- questions, cognition, and emotion talk.

Descriptive statistics for study variables are provided in Table 2, including potential covariates, parents' mental state talk (content and quality), and children's SDQ scores. Also included here are parents' tokens—the total number of words spoken during book reading that

were not printed in the text of the book (i.e., the extratextual talk). Note that there was wide variability in how much parents engaged in extratextual talk, ranging from 0 words to 139.

The first research question was: does parents' mental state talk relate to children's problem behavior or prosocial scores on the SDQ? Table 3 provides the bivariate correlations among potential covariates, parents' mental state talk, utterance function, and children's SDQ scores. We found that when parents' emotion talk and children's problem behaviors were negatively related (r = -.29, p = .04); that is, the more parents talked about emotion during book reading, the lower children's problem behaviors tended to be. Parents' talk about cognition and desire was unrelated to children's SDQ scores.

Given that child age, parent education, family income, and parents' tokens during the book reading were related to key study variables, next we examined parents' emotion talk as a predictor of problem behavior scores controlling for these covariates. As shown in Table 4, these covariates were entered at Step 1 in a hierarchical regression with parents' emotion talk entered at Step 2. After controlling for child's age, parent education, family income, and number of words, parents' emotion talk remained a significant predictor of the child's problem behavior scores (β = -.44, p = .02).

Because our sample size was small, we also report the marginally significant findings (i.e., $p < .10$). We found that parents' emotion talk was related to higher prosocial skills (r = .24, p = .09). This correlation was our only marginally significant finding. However, the same regression as reported in Table 4 was performed with prosocial skills as the outcome and parents' emotion talk was not a significant predictor. Thus, my first hypothesis that a high use of mental state talk by parents would be correlated with lower problem behaviors and higher prosocial skills by the children was partially supported.

The second research question was: is the utterance function of parent's mental state talk (i.e., more wh- questions and elaborations) related to problem behavior and prosocial scores on the SDQ? We did not find any significant correlations between parents' mental state utterance function and children's scores on the SDQ. Therefore, my second hypothesis was not supported.

As an exploratory analysis, we examined these relations between parents' mental state talk and children's SDQ scores separately for each book read. We found that for the Miss Fox's Class Gets it Wrong (Spinelli, 2012) book, parents' talk about emotions was significantly related to the child's prosocial (r = .44, p = .02) and problem behavior scores (r = -.52, p < .01) on the SDQ. There was no significant correlation ($r < \pm .08$ for emotion talk) between parents' mental state talk and SDQ scores for children who were read Houndsley and Catina and the Birthday Surprise (Howe, 2013).

Discussion

The purpose of this study was to examine parents' different types of extratextual utterances during a shared book reading with their child and how it relates to children's later positive and negative behavioral scores on the SDQ. Previous studies that have looked at parent-child book reading as a predictor of children's socio-emotional skills (Ruffman et al., 2006), analyzed the child's skills by looking at children's task performance. Unlike those studies, we used the SDQ, which measures the child's positive and negative behaviors in practice as rated by their parents.

My first hypothesis, which predicted that content of mental state talk as a whole would be related to the child's outcomes on the SDQ, was partially supported. Children who were read to with more emotion mental state talk, not cognition and desires, had lower scores on the four

problem behavior scales of the SDQ. These results confirm that a higher use of parental emotional talk during book readings is correlated to lower problem behavior scores on the SDQ, one year later and expands on prior work. One example of this would be LaBounty's study (2008) which found that mothers' references to emotion on a book task predicted children's emotional understanding. Our findings are novel in that we found emotion talk to be related to better scores on a negative behavioral measure, whereas most studies focus purely on emotion comprehension or positive traits (i.e., cooperability) such as in Ruffman et al., (2006). In the Ruffman study, children's cooperability on a task with a peer was measured. The other portion of my hypothesis, which stated that prosocial scores would be related to mental state talk, was not fully supported. We found that there was only a marginal relation between parents' emotional talk and the child's prosocial scores. It is possible that since parents have been at home with their children since the start of the pandemic in March 2020, that children's problem behaviors might be more evident. This could mean that parents are accurately reporting their children's problem behavior scores. Alternatively, parents are not seeing their children socialize with their peers, meaning they may not be able to accurately reflect on how their children behave around their peers.

My second hypothesis, which predicted that a higher quality of extratextual talk (i.e., more explanation and open-ended questions) would correlate with SDQ outcomes, was not supported by our findings. There was no connection between the amount of questions or elaborative comments that a parent made and the child's SDQ assessment. These results were unexpected, as previous research has found a connection favoring talk that elicits elaborate responses from the child (Schapira & Aram, 2019) or that provides children with explanations of mental states (Garner et al., 1997). Thus, the results from this study are inconsistent with that of

previous research. Previous research has found that utterance functions play an influential role in children's socio-emotional skills. For example, Schapira and Aram (2009) found that more elaborative talk was related to children's abilities to understand other's emotions and their causes. In our study it seems like the content of mental state talk, emotion talk specifically, seems to be more important than how parents are talking about emotions.

Interestingly, our results suggest that the type of book that the parent read to their child has an impact on the outcomes of the study. We found that parents' emotion talk while reading the Miss Fox's Class Gets it Wrong book was significantly correlated with SDQ scores (both problem behaviors and prosocial skills), while the other book, Houndsley and Catina and the Birthday Surprise, was not. These results were unexpected and show that the types of books used in parent-child book reading studies may affect the results. We believe that these differences were caused because the Miss Fox book requires extra explanations of mental states for the children to understand. The Houndsley and Catina book contained more simple displays of emotion (e.g., "Houndsley is sad") and the character's false belief was more directly related to the plot (i.e., Catina surprised Houndsley with a birthday party the same day he surprised her with one). The Miss Fox book, on the other hand, had a more complex misunderstanding between characters (i.e., the children thought she was going to jail when she was really getting married) which consequently required more in-depth explanation of the misinterpretation. Future researchers may want to analyze the books they use in their book-reading studies for such discrepancies.

This study is useful because it shows that children who are read to with more emotional talk tend to have lower problem behaviors one year later. This is important for parents to know in normal times, to help decrease the issues the child faces in their social world but may have more

significant implications for the children who have lived through the COVID-19 crisis. There is the potential for these findings to be more impactful because of the lack of socialization that children are currently facing. Without being capable of learning from their peers in schools, recreational activities, etc., children may be at a greater risk of peer problems or conduct problems, for example. In order to prevent children from falling behind in their socialization, future research may find that children who are read to with more emotional talk fair better than those who did not during the pandemic.

Limitations

There are a few limitations to our study. The main limitation is that this study is only correlational, which means we cannot assume that parents' mental state talk is the direct cause of children's SDQ scores. Another limitation is that because this study outcome was selected after the larger study had already begun, we were unable to get an initial score of the children's performance on the SDQ. True longitudinal studies record measurements both at the beginning of a study and at the follow-up, in order to control for earlier skills to measure growth over time.

Another area in which the results of this study are limited is in the participants themselves. Due to the nature of the recruitment, most of the parents in this study are educated, and have a higher income level. Therefore, our study is not representative of those from a range of educational and social economic statuses, which is important for a study to have a sample representative of the population. Additionally, the parents in this study sought out to participate in research involving reading to their children, which means they are highly motivated to read to their child. By having parents who are highly motivated to read to them, the children could be receiving above average levels of reading, which could be an external factor that influenced the study's results.

The final limitation of the study is that the children's SDQ scores are based on parental self-report. Parents have the potential to be biased in the reporting of their children. Van Roy et al. (2008) found low interrater reliability between parents and a proxy on the prosocial scale of the SDQ, indicating that there could be bias in parents' reporting. However, Dahlberg et al. (2019), found that the SDQ has high construct validity, and is a good tool for consistent use by different evaluators. As the research is a little mixed, it is possible that some level of inconsistency may be present.

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Table 1

Coding for Parent's Mental State Talk and Utterance Function

Variable	**Description**	**Example tokens**	**Examples from *Miss Fox Gets it Wrong* (mental states are bolded)**	**Examples from *Houndsley and Catina and the Birthday Surprise* (mental states are bolded)**
Cognition	Terms used to denote thoughts, memories, or knowledge of the parent, child, or a character in the book	Think, know, forget, decide, pretend, remember	Do you **know** where Hawaii is? What do you **think** the rumor is?	What do you **think** they're doing? What do you **think** the surprise is?
Desires	Terms used to denote desires, volition, & ability of the parent, child, or a character in the book	Can, hope, need, want, wish, would like	Does she look like she **needed** to be stopped? Mom **wants** to go there someday.	No, but do you think because he's a bird he **wants** some worms in it? She **could** ask her mom I guess.
Emotions	Tterms used to denote emotions of the parent, child, or a character in the book	Mad, sad, angry, happy, scared, love, worry, feel	What do you think they're **feeling** right now? Bear looks **worried**, I think.	Do you think she's **sad**? Would you be **sad** if you didn't know when your birthday was?
Wh-Questions	Who, what, when, where, how, and why questions and fill in the blank		What do you **think** the rumor is? Why do you **think** they're together so much?	What do you **think** the **surprise** is? How does he not **know** his birthday?

Yes/No Questions	Yes/no, tag, and forced choice questions	You **think** she's in trouble? Wow they look **frazzled** don't they?	Do you **know** when your birthday is? **Think** she'll be **surprised**?
Explanations	Clarifying or explaining the causes and consequences of a mental state	They **thought** she was going to jail. Oh well they're just **imagining** this.	He **though**t he was gonna **surprise** her. They didn't **know** when their birthday was.
Unelaborated Comments	Referring to a mental state without further explanation or clarification	She's **sad**.	I **know**.

Table 2

Descriptive Statistics

Variable	Number	Mean	Standard Deviation	Minimum	Maximum
Talk about Cognition	50	8.18	8.83	0	39
Talk about Desires	50	1.02	1.30	0	5
Talk about Emotions	50	2.26	2.81	0	15
Wh-Questions	50	2.72	3.39	0	13
Yes/No Questions	50	4.86	4.55	0	19
Explanations	50	3.88	3.96	0	16
Unelaborated Comments	50	1.16	1.56	0	5
Total Parent Tokens	50	43.26	31.40	0	139
SDQ Prosocial	50	8.42	1.57	5	10
SDQ Problem Behavior*	50	8.6	5.25	0	23
Valid N (listwise)	50				

Note. SDQ = Strengths and Difficulties Questionnaire. *SDQ Problem Behavior is the sum of the Hyperactivity-Inattention, Conduct Problems, Emotional Symptoms, and Peer Relationship Problems scales.

Table 3

Bivariate Correlations Among Covariates, Parents' Mental State Talk, and Children's SDQ Scores

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Child Age	--													
2. Parent Age	.09	--												
3. Family Income	-.07	.22	--											
4. Parent Education	.08	.07	.25	--										
5. Parent Tokens	.08	-.12	-.21	.-16	--									
6. SDQ Prosocial	-.10	.14	-.03	-.34*	.09	--								
7. SDQ Problem Behavior*	.08	-.14	-.06	.14	-.00	-.43**	--							
8. Talk about Cognition	.09	-.09	-.21	-.21	.79**	.04	.74	--						
9. Talk about Desires	.07	-.06	-.03	-.21	.36*	-.04	.06	.23	--					
10. Talk about Emotions	-.30*	-.15	-.30*	-.25	.49**	.24	-.29*	.54**	.24	--				
11. Wh-Questions	.10	-.15	-.33*	-.21	.69**	.02	.05	.88**	.35*	.53**	--			
12. Yes/No Questions	.03	.02	-.09	-.25	.75**	.13	.03	.78**	.46**	.65**	.61**	--		
13. Explanations	.07	-.15	-.14	-.07	.71**	-.03	.09	.55**	.18	.28	.37**	.52**	--	
14. Unelaborated Comment	-.08	-.19	-.23	-.04	.50**	.20	-.08	.51**	-.09	.32*	.02	.24	.47**	--

Note. SDQ = Strengths and Difficulties Questionnaire. *SDQ Problem Behavior is the sum of the Hyperactivity-Inattention, Conduct Problems, Emotional Symptoms, and Peer Relationship Problems scales. **$p < .01$, *$p < .05$.

Table 4

Hierarchical Regression Predicting Children's SDQ Problem Behaviors

Predictor	*B*	*SE B*	β	ΔR^2	*p*
Step 1					
Child Age	.67	1.59	.06		
Family Income	-.23	.40	-.09		
Parent Education	.60	.57	.16		
Parent Tokens	.00	.03	.001	.03	.82
Step 2					
Child Age	-.95	1.65	-.09		
Family Income	-.48	.39	-.19		
Parent Education	.44	.54	.12		
Parent Tokens	.03	.03	.20		
Parents' Emotion Talk	-2.46	1.02	-.44*	.11	.02

Note. SDQ = Strengths and Difficulties Questionnaire. *$p < .05$.